

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING

PCT

NOTIFICATION OF TRANSMITTAL OF
INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

To:

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Applicant's or agent's file reference
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IMPORTANT NOTIFICATION

International application No.

PCT/KR2003/002775

International filing date (day/month/year)

18 DECEMBER 2003 (18.12.2003)

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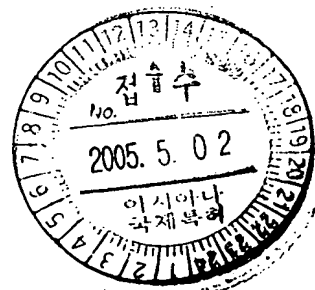
Applicant

RORZE SYSTEMS CORPORATION et al

1. The applicant is hereby notified that International Preliminary Examining Authority transmits here with the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**
The applicant must enter the national phase before each elected office by performing certain acts (filing translations and paying national fees) within 30 month(s) from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details in the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.



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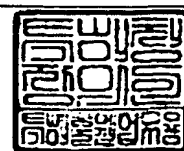
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INTERNATIONAL PRELIMINARY EXAMINATION

International application No.

PCT/KR2003/002775

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1~11	YES
	Claims		NO
Inventive step (IS)	Claims	1~11	YES
	Claims		NO
Industrial applicability (IA)	Claims	1~11	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

D1 JP 2001-113384 A (Koikesansokogyo Co. Ltd.) 24 April 2001

D2 JP 10-323779 A (Hitachi Cable Ltd.) 08 December 1998

The present invention(henceforth PI) is a glass plate cutting machine with laser beam provided to improve the uneven glass section and slanted cutting. D1 describes the laser beam cutting method and device for reducing a heat-affected area which is caused on a material to be cut by a laser beam. D2 provides the method of evaporation cutting or split cutting of a Si substrate.

1. Novelty

Claims 1-11 are novel.

D1 and D2 use CO₂ laser beam and cooling means to cut the object as PI do. However, none of D1 and D2 has the features of controlling the plane irradiation density and volume irradiation density. Therefore Claim 1-11 are novel.

2. Inventive step

Claims 1-11 involve an inventive step.

D1 and D2 both relate to cutting the object with laser beam and cooling means. D1 uses air, inert gas, carbon dioxide gas, or their mixed gas as a cooling gas. Also D2 sprays the gas to cool the Si substrate quickly right after stopping the irradiation of the laser beam. However, PI uses cooling fluid to quench the glass plate.

PI limits the range of plane irradiation density and volume irradiation density which control the quality of cutting plane. If the plane irradiation density is less than 0.05 joule/mm², the scribe line is not formed due to the shortage of energy. The zigzagged pattern of scribe line is seen in exceeding the plane irradiation density 2 joule/mm². As for volume irradiation density, same discussion can be applicable.

Therefore, Claims 1-11 involve an inventive step.